Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems	)	ET Docket No. 00-258
	)	
Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use By the Mobile-Satellite Service	)	ET Docket No. 95-18
	)	
The Establishment of Policies and Service Rules for the Mobile-Satellite Service in the 2 GHz Band	)	IB Docket No. 99-81
	)	
Flexibility for Delivery of Communications by Mobile Satellite Service Providers in the 2 GHz Band, the L-Band, and the 1.6/2.4 GHz Band	)	IB Docket No. 01-185
	)	

COMMENTS OF THE PROGRESS & FREEDOM FOUNDATION

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A. INTRODUCTION AND SUMMARY

The Progress & Freedom Foundation ("PFF" or "Foundation") is a private non-profit, non-partisan research institution established in 1993 to study the digital revolution and its implications for public policy. PFF hereby submits its comments in response to two notices recently issued by the Commission, both of which raise issues regarding the allocation and use of spectrum for Mobile Satellite Service ("MSS").[1]

PFF has conducted extensive research on spectrum allocation policy.[2] Like the Commission, the Foundation believes that "Spectrum is a valuable and finite public resource that must be allocated and assigned in a manner that will provide the greatest possible benefit to the American public."[3] And, like the Commission, the Foundation believes that market-based approaches represent the best ways of achieving this goal.[4] Unfortunately, in our view, the Commission's ability to implement market-based approaches is severely constrained by domestic statute, international treaty and long-standing precedent. Indeed, the Commission is at times reminded of these constraints

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[1] *Flexibility for Delivery of Communications by Mobile Satellite Service providers in the 2 GHz band, the L-band, and the 1.6/2.4 GHz Band,* Notice of Proposed Rulemaking, FCC 01-225 (August 17, 2001) ("*MSS Flexibility Notice*") and *Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New advanced Wireless Services, Including Third Generation Wireless Systems*, Memorandum Opinion and Order and Further Notice Of Proposed Rulemaking, FCC 01-224 (August 20, 2001) ("*MSS Spectrum Reallocation Notice*"). The views contained in these comments are the views of the comments' authors and do not necessarily reflect the views of the directors, officers, or staff of the Foundation.

[2] See Progress on Point 8.15, R. May, et. al, *The ABC's of Getting to 3G Wireless – Another Broadband Alternative Waiting to be Born: A Symposium*. (The Progress & Freedom Foundation, July 2001) (*"The ABC's of Getting to 3G Wireless")*; G. Keyworth, et. al, *The Telecom Revolution: An American Opportunity* (The Progress & Freedom Foundation, May 1995) (*"The Telecom Revolution")*; *Broadcast Spectrum: Putting Principles First*.

[3] *Policy Statement on Principles for Reallocation of Spectrum to Encourage the Development of Telecommunications Technologies for the New Millennium Policy Statement*, 14 FCC Rcd 19,868 (1999) ¶ 7 ("*Spectrum Reallocation Policy Statement*").

[4] *Spectrum Reallocation Policy Statement,* ¶ 9.

by prominent lawmakers.[5] Spectrum continues, therefore, to be allocated largely by administrative fiat.

In the instant proceedings, the Commission confronts squarely many of the problems of such an approach. Faced with massive uncertainty about technological and marketplace factors, it must decide not only the uses to which highly valuable spectrum will be put, but the precise terms and conditions of use. Its choices in this particular matter are further constrained by a statutory prohibition on the use of its most powerful, market-based tool – auctions – for spectrum used by MSS providers.

Despite these constraints, the Commission can and should adopt policies that allow spectrum usage to be driven as much as possible by private decisionmaking and the forces of the marketplace. Towards that end, PFF believes:

1. In keeping with its pro-market, pro-flexibility approach to spectrum allocation, the Commission should grant the increased flexibility requested by MSS providers to permit creation of an "ancillary terrestrial component" ("ATC") for MSS systems.
2. In recognition of the potential for competition to develop between ATC operations and CMRS providers, the Commission should consider imposing upon MSS providers a system of fees for the use of spectrum for ATC purposes. It should announce now the standards it will use for determining whether to impose such fees and to determine at what level they would be set.

[5] For example, in a recent letter to Chairman Powell, Senator Ernest F. Hollings advised the FCC that it "must refrain from bending the law to meet the excessive demands of industry….[and] must simply apply the law as intended by Congress." Telecommunications Reports Daily (October 17, 2001) at 2.

3. In keeping with its general inclination to permit secondary markets to facilitate efficient spectrum allocation, the Commission should adopt a liberal policy with respect to consolidations among MSS providers and between MSS providers and other firms, including specifically providers of commercial mobile radio services ("CMRS").

4. The Commission should immediately reallocate 10-14 MHz of spectrum from MSS use to alternative uses, most likely advanced wireless services.

5. The Commission should adopt a "zero tolerance" policy for failure of MSS operators to meet milestone requirements, and should be prepared to reallocate such abandoned MSS spectrum to alternative uses, most likely advanced wireless services, on an expedited basis should abandonment occur.

While the FCC is not at liberty to implement a truly market-based approach to the spectrum allocation issues presented here, the steps outlined above are, in our view, the ones most likely to produce market-like outcomes within the constraints it faces.

B. BENEFITS OF MARKET-BASED APPROACHES TO SPECTRUM ALLOCATION

PFF believes that "the paramount goal of spectrum reform should be to channel existing broadcast spectrum… to its highest and best use."[6] To achieve that end, PFF has advanced a simple and powerful solution -- the adoption of a market-based approach for spectrum allocation[7] -- under which the Commission would minimize limitations in licenses to spectrum rights, auction licenses to spectrum rights to the

[6] Progress & Freedom Foundation, FCC Working Group, *Broadcast Spectrum: Putting Principles First* (1996), at 2.

highest bidder, and enable secondary markets to reallocate spectrum rights.[8] This approach has been broadly endorsed by economists, who emphasize that it harnesses the flexibility and incentive structure of the free market to identify the highest-valued use of particular spectrum rights and to transfer those spectrum rights to that use.[9] Even the best-intentioned political process cannot work as effectively as the market in allocating resources.[10] Moreover, in the real world of licensing, firms engage in rent-seeking,[11] and government uses the licensing process to micromanage firm conduct.[12]

Indeed, the Commission increasingly has recognized the advantages of relying on market-based mechanisms for allocating spectrum. Within the last year, it has issued two policy statements expressing its confidence that free markets can allocate spectrum efficiently. In its Policy Statement on Principles for Reallocation of Spectrum to Encourage the Development of Telecommunications Technologies for the New Millennium[13] ("*Spectrum Reallocation Policy Statement*"), the Commission declared that "[i]n the majority of cases, efficient spectrum markets will lead to use of spectrum for the

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[7] *Broadcast Spectrum: Putting Principles First*, at 2.

[8] *See* Lawrence J. White*, "Propertyzing" The Electronic Spectrum: Why It's Important, And How To Begin*, *in* Communications Deregulation and FCC Reform: Finishing he Job (J. Eisenach and R. May, eds. 2001) at 112 (*"'Propertyzing' The Electronic Spectrum")* (advocating that the current licensing framework be converted into a "full-fledged system of property rights").

[9] See Comments of 37 Concerned Economists, *Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets, (*February 7, 2001) ("*37 Concerned Economists*"); Ronald H. Coase, *The Federal Communications Commission*, J. L. & Econ. 1 (1959) (the seminal article in the economics literature advancing a market-based solution); Thomas W. Hazlett, *Assigning Property Rights to Radio Spectrum Users: Why did FCC License Auctions Take 67 Years?,* 41 J. L. & Econ. 529, 529 (1998) ("*Assigning Property Rights")* ("Issuing spectrum access rights by means other than auctions has been a curious policy to economists.").

[10] *'Propertyzing' The Electronic Spectrum,* at 119.

[11] See. e.g., *Assigning Property Rights,* at 533; Thomas W. Hazlett & Robert J. Michaels, *The Cost of Rent-Seeking: Evidence from Cellular Telephone License Lotteries*, 59 S. Econ. 425 (1993). *'Propertyzing' The Electronic Spectrum,* at 119 (citing estimate that the FCC-induced delay of cellular rollout cost $86 billion in 1990 dollars).

[12] *The Telecom Revolution*, at 25 ("The Commission generally issues licenses with many strings attached … [that] impose additional, large costs on the economy and consumer welfare."). See also, Randolph J. May, *Ruling Without Real Rules: Or How to Influence Private Conduct Without Really Binding*, 53 Admin. L. Rev., No. 4 (2000) (forthcoming).

highest value end use."[14] In its Policy Statement on Principles for Promoting the Efficient Use of Spectrum by Encouraging the Development of Secondary Markets[15] ("*Spectrum Secondary Markets Policy Statement*"), the Commission explained that "[a]n effectively functioning system of secondary markets would encourage licensees to be more spectrum efficient by freely trading the rights to unused spectrum capacity…or selling their rights to unused frequencies."[16]

We believe that the Commission's broad objective should be the adoption of a market-based approach to spectrum allocation. However, in addressing specific issues, the Commission may be constrained by statute or other considerations from implementing this approach. In such cases, we believe the Commission's touchstone should be the principle that its actions should increase flexibility in licensees' ability to use and transfer spectrum. Flexibility is a hallmark of efficient markets, and increased flexibility though administrative action will lead to more efficient spectrum use.[17] Actions increasing flexibility include reducing restrictions on spectrum use and creating mechanisms that facilitate the reallocation of spectrum to higher and better uses.

The Commission has itself recently emphasized the value of increased flexibility as a way of enabling efficient spectrum markets to develop and permitting licensees to make better use of spectrum. "Flexible allocations may result in more efficient spectrum markets. Flexibility can be permitted thorough the use of relaxed service rules, which

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[13] *Policy Statement*, 14 FCC Rcd 19,868 (1999).
[14] *Spectrum Reallocation Policy Statement*, at ¶ 9.
[15] *Policy Statement*, 15 FCC Rcd 24,178 (2000).
[16] *Spectrum Secondary Markets Policy Statement*, ¶12.
[17] *Broadcast Spectrum: Putting Principles First,* at 2 ("Giving existing and new spectrum users more flexibility to use their spectrum as they see fit … will create strong economic incentives to deploy spectrum … efficiently."). This view is widely endorsed. See also *37 Concerned Economists* at 2 (endorsing "flexible spectrum allocations" since "more flexible use of spectrum will unleash large

would allow licensees greater freedom in determining the specific services to be offered."[18] Indeed, last month, the Commission implemented a flexible allocation scheme for the 2500-2690 MHz band, deciding to add a mobile allocation to the band while refraining from displacing incumbents.[19] It explained that this added flexibility would "rely[] generally on market forces rather than making regulatory judgments about the best use of the band,"[20] and that "with flexible allocations, spectrum efficiencies can be achieved in a number of ways."[21] The Commission also cited actions to expand flexibility in the use of spectrum for PCS, WCS, and new services operating on television channels 60-69.[22]

C. ALLOCATION BY FIAT: THE CASE OF MSS

The importance of moving toward a market-based approach to spectrum allocation is illustrated by the Commission's experience in allocating spectrum for MSS. These systems are intended to provide new regional and global data and voice services via satellite.[23] Congress directed the Commission to assign spectrum rights for satellite uses without auctions, thus preventing it from utilizing the marketplace to determine which MSS systems would obtain spectrum and how much each would get. In the face of these restrictions, the Commission chose to allocate the available spectrum equally

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efficiencies in spectrum management"); *'Propertyzing' The Electronic Spectrum*, at 126 (describing the flexible adaptations made possible under a market-based approach).

[18] *Spectrum Reallocation Policy Statement,* ¶ 9.

[19] *New Advanced Wireless Services*, First Report and Order September 24, 2001 (*"NAWS"*), ¶ 2.

[20] *NAWS,* ¶ 2.

[21] *NAWS,* ¶ 20.

[22] *NAWS,* ¶ 20.

[23] MSS is defined as a radiocommunication service: (1) between mobile earth stations and one or more space stations, or between space stations used by this service; or (2) between mobile earth stations, by means of one or more space stations. This service may also include feeder links necessary for its operation. 47 C.F.R. § 25.201.

among qualified applicants, specify detailed criteria for service, and impose upon the recipients a timetable for deployment. This framework bears little resemblance to the market-oriented, flexible approach generally favored by both PFF and the Commission.

The Commission and other entities have been developing plans to authorize new mobile satellite services for the 2 GHz frequency band for at least a decade. In 1992, the World Administrative Radio Conference ("WARC") allocated certain 2 GHz bands to MSS use,[24] and the Commission launched a proceeding to consider the need to reallocate spectrum to "emerging technologies" such as MSS.[25] The Commission proposed to allocate certain spectrum in the 2 GHz band to MSS in the United States in 1995, and in 1997, the Commission adopted this proposal.[26]

The Commission found that it was in the public interest to make this allocation, explaining that MSS would "provide another option for mobile communications and would provide communications for underserved areas" in the United States, such as rural areas.[27] It cited projections that, by 2005, MSS spectrum requirements would considerably exceed the spectrum allocated and the need to ensure that "any 2 GHz allocation…be as consistent as possible with the WARC-92 and WRC-95 allocations."[28]

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[24] The 1980-2010 MHz and 2170-2200 MHz bands were allocated to MSS worldwide, and the 2165-2170 MHz band to MSS in Region 2, each on a co-primary basis with fixed and mobile services, effective January 1, 2000.

[25] See *Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies,* ET Docket 92-9, 57 FR 5993 (February 19, 1992) ("*Emerging Technologies*").

[26] *See The Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band*, FCC 00-302, IB Docket No. 99-81 (August 25, 2000) ¶ 3.

[27] *See Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service*, ET Docket No. 95-18, First Report and Order and Further Notice of Proposed Rule Making, 12 FCC Rcd 7388, 7393-95 ¶¶ 10-15 (1997) (*2 GHz MSS Allocation Order*) (international allocation of portions of the 2 GHz frequency band for mobile satellite service links adopted for use in the United States).

[28] *2 GHz for Use by the Mobile Satellite Service,* 62 Fed. Reg. 19,509 (April 22, 1997) at 19,509.

The Commission has reiterated these views in confirming the MSS allocation decision in several pronouncements.[29]

Last year, Congress prohibited the Commission from using competitive bidding to allocate spectrum used for the provision of international or global satellite communications services.[30] With auctions thus precluded, the Commission elected to assign equal amounts of spectrum to each of nine applicants, subject to the satisfaction of certain milestones:

> MSS operators must enter into a non-contingent satellite manufacturing contract within one year of authorization, complete critical design review ("CDR") within two years of authorization [i.e. July 17, 2001], begin physical construction of all satellites in the system within two-and-a-half years of authorization, and complete construction and launch of the first two satellites within three-and-a-half years of authorization. The entire system must be launched and operational within six years of authorization.[31]

The absence of a market-based approach to spectrum allocation in this case is especially unfortunate because MSS by its nature involves complex judgments about large investments, made over long time horizons, in an environment of extreme technological and marketplace uncertainty. Under these circumstances, the advantages of a market-based approach are the greatest; government agencies are not well-suited to assess risky and entrepreneurial ventures and "pick winners."[32]

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[29] *See, e.g., Memorandum Opinion and Order and Third Notice of Proposed Rule Making and Order*, 13 FCC Rcd 23949 (1998) (affirming 2 GHz MSS allocation and seeking further comment on relocation issues) (*2 GHz Relocation Third NPRM*); *The Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band*, FCC 00-302, IB Docket No. 99-81 (August 25, 2000) ¶ 1; *MSS Flexibility Notice*, ¶ 1.

[30] The Open-Market Reorganization for the Betterment of International Telecommunications Act (the "ORBIT Act"), Pub. L. No.106-180, 114 Stat. 48, § 647 (enacted March 12, 2000) (the "ORBIT Act").

[31] MSS Flexibility Notice, ¶¶ 9, 15.

[32] *See See 'Propertyzing' The Electronic Spectrum* at 119, 126 (observing the onerous information processing requirements of bureaucratic allocation processes, their "sluggishness and bias towards incumbency," and the superiority of market allocation processes).

Indeed, the fledgling MSS industry has experienced precisely the sorts of turmoil that might be expected in such a rapidly developing market, the best known example of which being Iridium, which spent $5 billion building a service that attracted a mere 55 thousand subscribers.[33] ICO also filed for bankruptcy protection, and has emerged with new financial backing.[34] Globalstar has also experienced serious difficulties. While we do not offer a view on the overall state financial state or future prospects of either individual MSS providers or the sector as a whole, it is beyond dispute that circumstances in the MSS marketplace are highly fluid.

D. SPECIFIC PROPOSALS FOR MSS SPECTRUM ALLOCATION AND USE

The Commission initiated these proceedings in order to consider proposals to make more efficient use of the spectrum currently allotted to MSS. We believe the Commission should use the opportunity to introduce into this marketplace as many of the elements of a market-based approach as the law and sound policy principles will permit. We believe the Commission should adopt a balanced approach characterized by introducing market-like mechanisms, adhering to its previous rulings and ensuring that unequal treatments for spectrum allocated for MSS, on the one hand, and CMRS, on the other, not result in the inefficient allocation of scarce economic resources.

First, the MSS Flexibility Notice seeks comment on proposals to provide increased flexibility in the use of spectrum allocated for MSS, by permitting its use in an ancillary terrestrial component of the MSS system.[35] The Commission should grant

[33] *See* William Glanz, *Man Hopes to Save Iridium Satellites*, Washington Times (April 12, 2000) at B7.
[34] Letter from Cheryl A. Tritt to Chairman Michael K. Powell, at 4.
[35] *MSS Flexibility Notice*, ¶¶ 29-40.

these requests, which are necessary to permit MSS providers to react to the changing realities of the marketplace and maximize the benefits of MSS services to consumers.

Second, we recognize that it is possible that MSS operators' ATC operations could develop into substantial competitors of CMRS providers, and that such competition raises legitimate concerns among CMRS providers that they will find themselves competing against firms which, unlike CMRS providers, were not forced to spend billions of dollars to purchase the necessary spectrum. As discussed below, we believe these concerns can be addressed, in part, through the imposition of fees on ATC services, and that the Commission should announce clear standards regarding how it will determine the need for and amount of such fees.

Third, we believe the Commission should permit the development of a secondary market for MSS spectrum to the maximum extent permitted by law, announcing a liberal approach to consolidations both among MSS operators (subject to appropriate conditions) and between MSS operators and other firms, including specifically CMRS providers. Not only would there to be potential synergies in mergers between CMRS and MSS firms, but permitting such mergers would create a market mechanism to effectively eliminate implicit subsidies and ameliorate resulting economic inefficiencies.

Fourth, in the MSS Spectrum Reallocation Notice, the Commission has proposed reallocating 10-14 MHz of spectrum from MSS to other uses,[36] including specifically for advanced wireless services, where there is strong evidence of need for additional

[36] *MSS Spectrum Reallocation Notice,* ¶ 24.

spectrum.[37] PFF supports the immediate reallocation of the spectrum identified by the Commission for this purpose.

Fifth, the Commission requests comment on the treatment of spectrum abandoned by MSS licensees voluntarily, or surrendered by providers who fail to meet the milestones for development and rollout of service.[38] In this context, we believe the Commission should make clear that it will adopt a "zero tolerance" policy with respect to the deployment schedule for MSS services and act immediately to reallocate any spectrum surrendered by MSS users – voluntarily or otherwise – to higher valued uses. Again, the Foundation believes the evidence supports a finding that the highest priority should be given to allocating additional spectrum for advanced wireless services.

1. Flexibility to Add an Ancillary Terrestrial Component to MSS Systems

At least some of the problems being experienced by the MSS industry relate to difficulties it has experienced in providing ubiquitous signal coverage – specifically the fact that MSS handsets generally do not work in buildings and in "urban canyons."[39] To address this problem, one MSS provider, ICO, has proposed to create an "ancillary terrestrial component" (ATC) as part of its system. The basic strategy is to construct ancillary terrestrial base stations to aid communication with areas where satellite signals will not carry, such as buildings and urban canyons.[40] These ground-based stations would use MSS-assigned frequencies, and so the proposal requires a service rule

[37] *See, e.g.,The ABC's of Getting to 3G Wireless* (observations of various industry participants and policy experts on the importance of finding additional spectrum for 3G uses).
[38] *MSS Spectrum Reallocation Notice,* ¶ 28.
[39] Letter from Cheryl A. Tritt, Morrison & Foerster, to Michael K. Powell, Chairman, Federal Communications Commission, IB Docket No. 99-81 (2 GHz Service Rules) (March 8, 2001), at 5.
[40] *MSS Flexibility Notice*, ¶¶10-11.

change. ICO argues that ATC will increase the overall viability of MSS systems and make more efficient use of spectrum that would otherwise be underutilized, especially in urban areas.[41] Motient has a similar proposal for use of spectrum in the L-bands.[42]

In response to these proposals, the Commission seeks comment on whether it "should permit MSS licensees in the 2 GHZ and L-bands flexibility to use terrestrial operations in conjunction with their satellite services on an ancillary basis."[43] It explains that these proposals essentially request authorization "to construct a network with both satellite and terrestrial facilities operating on the same frequencies and to transmit traffic on either portion of the network, as needed, to provide service."[44] It requests comments, including whether these proposals would increase the commercial viability of MSS and the more efficient use of the spectrum.[45] It also seeks comment on the "implications [of] the ORBIT Act auction exemption" on this issue.[46]

We believe that the proposed flexibility to permit MSS operators to include an ancillary terrestrial component in their operations has considerable merit. Improving signal coverage in urban areas will benefit all potential MSS system users. First, by reducing the problem of signal coverage in cities, ATC would increase the area of effective coverage of MSS, and expand demand by those who whose travel patterns make urban coverage a desirable attribute. By making MSS more useful, ATC would allow MSS providers to attract more customers over which to spread their high fixed

[41] Letter from Cheryl A. Tritt to Chairman Michael K. Powell, at 5-6, 13-15.
[42] *MSS Flexibility Notice*, ¶¶15-16.
[43] *MSS Flexibility Notice,* ¶ 22.
[44] *MSS Flexibility Notice,* ¶ 29.
[45] *MSS Flexibility Notice,* ¶ 25.
[46] *MSS Flexibility Notice,* ¶ 40.

costs. Capturing these indirect network effects can be critical in successfully building a network under these circumstances.[47]

Second, permitting flexibility would allow economic use of a valuable resource that would otherwise be vastly underutilized. Because MSS service is largely marketed to rural areas, MSS spectrum will, other things equal, tend to be underutilized in urban areas.[48] To the extent MSS operators can create economic value from this resource by constructing ATC capabilities, economic welfare will be increased commensurately.

2. Imposition of Fees on ATC Use of MSS Spectrum

Competitors of potential MSS systems are legitimately concerned that a decision to grant permission for ATC systems would allow MSS/ATC providers to compete unfairly for the same customers. They point specifically to the fact that MSS providers did not have to purchase their spectrum at auction – a savings of uncounted billions of dollars relative to their CMRS competitors. While these concerns are generally phrased in terms of "fairness," we believe there are also potential implications for economic efficiency that should lead the Commission to consider imposing fees on the ATC operations of MSS providers.[49]

In order to ensure that the service is truly ancillary to a MSS operation, ICO proposes that ATC "only be operated in conjunction with a launched *and commercially*

[47] *See, e.g.,* William J. Kolasky, *Network Effects: A Contrarian View,* 7 Geo. Mason L. Rev. 577, 587-91 (arguing that network effects are generally most significant for competition when combined with increasing returns).
[48] Letter from Cheryl A. Tritt to Chairman Michael K. Powell, at 15
[49] We recognize the Commission's authority to impose such fees is a matter of dispute, and offer no view on whether statutory changes would be required to permit to Commission to do so. If the Commission were to determine that additional authority were required, however, we would recommend it seek such authority, consistent with the views expressed below.

operating satellite system."[50] However, the Commission has noted that "it appears that the MSS operator would assign separate channels to the terrestrial and satellite portions of the network to meet traffic demands and that a call could originate and terminate on one part of the network (*e.g.*, terrestrial) without being carried on the other part of the network (*e.g.*, satellite)."[51] CTIA has raised related concerns.[52]

To the extent MSS operators begin to compete directly for CMRS customers, the fact that the MSS operators did not pay directly for their spectrum could represent a competitive advantage raising efficiency concerns. Specifically, it is at least theoretically possible that firms interested in competing in the market for CMRS services could use the MSS/ATC route as a means acquiring the necessary spectrum at greatly reduced cost, thereby placing them at a competitive advantage over CMRS providers *even though the economic costs of deploying an MSS/ATC system were substantially higher than the costs of deploying a comparable CMRS terrestrial system.*

The determination of whether to impose fees on the ATC operations of MSS providers, and if so at what level such fees should be set, should be based on facts not currently available to the Commission or, for that matter, to anyone else. First, it is not possible to predict with any certainty whether the ATC of MSS operations will ever compete directly with other mobile services. Second, data are not presently available to estimate the size of any implicit subsidy accruing to MSS/ATC operators, and thus to set the appropriate level of fees. Such a calculation should reflect the real economic

[50] Letter from Cheryl A. Tritt to Chairman Michael K. Powell, at 7 (emphasis in original).
[51] *MSS Flexibility Notice,* ¶ 11.
[52] Letter from Christopher Guttmann-McCabe, Cellular Telecommunications Association to Magalie Roman Salas, Secretary, FCC, *Ex Parte Presentation, Docket No. 99-81* (June 20, 2001) (attaching presentation discussing how ICO's ATC proposal "closely resembles" CMRS and opposing the request on several grounds).

costs of acquiring spectrum by each party (including purchases effectively made through secondary markets[53]), the costs of building out systems (both terrestrial and satellite-based), and other aspects of development and operation (e.g. handset costs).

It is important, however, that the FCC take this opportunity to set forth clear standards that will govern the resolution of these issues, thereby providing all parties with sufficient certainty for their operations. MSS operators will need to know the conditions under which they may expect to incur further financial obligations for spectrum use, and the likely amount of any such obligations. Similarly, CMRS operators would benefit by knowing the rules under which their potential competitors will be operating. Thus the Commission should, in this proceeding, establish the standards it will use in determining whether competition between MSS and CMRS operators is sufficiently significant to make fees desirable as part of this proceeding. It should also announce the criteria by which it would set such fees, criteria which should reflect the goal of avoiding implicit subsidies that result in uneconomic allocations of economic resources.

3. Treatment of Mergers Between MSS Operators and Terrestrial Operators

PFF has repeatedly emphasized the benefits of mergers in the telecom sector.[54] The generally rapid pace of mergers and consolidations among telecommunications

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[53] Both ICO and Iridium filed for bankruptcy and emerged under the control of new investors who put new capital at risk. Iridium's assets were bought by Iridium Satellite LLC. Craig McCaw and a group of U.S. and international investors put up a total of $1.2 billion to acquire the ICO business. Thus the current owners of these companies have paid for their assets, including the proposed spectrum allocations.

[54] *See, e.g.,* R. May et. al, *FCC Review of Telecom Mergers: A Symposium* (The Progress & Freedom Foundation, Progress on Point 7.5 (April 2000); *In the Matter of GTE Corporation, Transferor and Bell Atlantic, Transferee*, Comments of the Progress & Freedom Foundation, Docket 98-184 (February 15, 2000); *In the Matter of GTE Corporation, Transferor and Bell Atlantic, Transferee*, Comments of the Progress & Freedom Foundation, Docket 98-184 (December 23, 1998). Of course, PFF recognizes that

firms in recent years is reflective of the rapidly changing nature of telecommunications technology and the telecommunications marketplace. As a general matter, such reallocations of economic assets contribute to the economy's ability to respond to changing circumstances and to place scarce resources under the control of those best able to make use of them. As noted above, conditions in the MSS marketplace are fluid even by the standards of the telecommunications business.

Accordingly, we believe that the FCC should take a liberal approach to consolidations involving MSS providers. First, the Commission should make clear that it would look favorably upon transactions or consolidations involving CMRS and MSS operators. There may be substantial synergies between these operations. Indeed, ATC itself may be a reflection of this potential. Moreover, the opportunity to engage in such transactions may substantially reduce any concerns arising from the potential for competition between MSS and CMRS operators. By acquiring MSS operations, CMRS operators would be able to obtain for themselves some of the advantages that MSS operators otherwise might uniquely possess, such as the ability to combine satellite and terrestrial operations. The existence of such a secondary-market opportunity would ameliorate the legitimate concerns of CMRS providers about unfair competition from MSS/ATC operators.

The Commission also specifically requests comment on how it should treat spectrum assignments in the event of consolidation among MSS providers.[55] The Commission seeks comments on whether the rules should be waived or modified to permit consolidating MSS operators to keep both spectrum assignments.

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mergers also may raise competitive concerns that should be addressed under the relevant antitrust standards.

The MSS sector presents ample opportunities for improved efficiency through consolidation. There are eight licensees whose operations are in various stages of development. Several have suffered severe business and financial reversals. Financial considerations may necessitate consolidation. Moreover, there could very well be large economies of scale in MSS operations, due to the high costs of building a system of satellite communications with national or global coverage. Operators should be permitted to achieve such efficiencies.

It may well prove necessary for MSS operators to combine their spectrum allocations in order to provide service efficiently. There is no reason to expect that the amount of spectrum allocated to each applicant under the Commission's equal shares approach will be adequate to operate a service. Consolidations can represent an effective way for applicants to acquire sufficient spectrum for their operations.

Therefore, in general the Commission should be flexible in permitting consolidations. To the extent that the milestone requirements or other regulations limit the ability of MSS operators to combine to obtain the minimum amount of spectrum for efficient operations, the Commission should consider waiving such regulations. However, in light of the possibility that there are higher and better uses for this spectrum, such waivers should not be automatic. We believe that MSS operators that consolidate operations should generally be permitted to retain spectrum only to the extent they can demonstrate the combined spectrum is needed to permit efficient, economic operation of their systems.

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[55] *MSS Spectrum Reallocation Notice*, ¶ 35.

4. Redeploying MSS Spectrum to Alternative Uses

The Commission also decided to reconsider two important aspects of the MSS spectrum allocation decision in the *2 GHz MSS R&O*.[56] It proposed to reallocate 10 to 14 megahertz of MSS spectrum for advanced wireless services within the next year, outlining mechanisms for effectuating the reallocation with minimum disruption to existing licensees.[57] The Commission also decided to reconsider its decision to limit the possible uses of spectrum assignments abandoned due to failure to meet milestone requirements. It has requested comments on how abandoned spectrum should be treated, specifically identifying reallocation to advanced wireless services as an option.[58] CTIA and others have advocated that the Commission reallocate MSS spectrum, in part based on the difficulties MSS operators have faced in establishing service.[59]

We support the Commission's proposal immediately to reallocate 10 to 14 MHz of spectrum from MSS use, especially in light of other pressing needs for spectrum, most obviously for the provision of advanced wireless services. Indeed, rapid deployment of such services are important not only to consumers of telecommunications services but, arguably, to the entire economy.[60] The 10 to 14 MHz of spectrum identified in this proceeding should be available for inclusion in the overall block of spectrum that is made available for advanced wireless services through the deliberations presently underway between the Commission, NTIA and other agencies.

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[56] *2 GHz MSS R&O*, 15 FCC Rcd at 16139 ¶ 18.
[57] MSS Spectrum Reallocation Notice, ¶¶ 24-26.
[58] MSS Spectrum Reallocation Notice, ¶ 22.
[59] *Petition for Rulemaking of the Cellular Telecommunications & Internet Association* (filed May 18, 2001) (urging the Commission, based partly on ICO's petition, to reallocate spectrum from MSS to other uses).
[60] *See, e.g.* Eisenach, in *The ABC's of Getting to 3G Wireless*; New Advanced Wireless Services, Proposed Rule, 66 Fed. Reg. 7438 (January 23, 2001).

5. Failure to Meet Milestones and Deployment Timetables

Our comments above reflect our predisposition to inject, as much as possible, flexibility and market-like mechanisms into the provision of MSS services. It remains the case, however, that Congress has decreed that spectrum used for MSS services cannot be put up for auction or, once designated for MSS use, be put to any alternative use absent the revocation of the current MSS licenses and reallocation of the spectrum to alternative uses. The Commission, in turn, has established clear criteria by which such a reallocation might take place – specifically the deployment timetables referred to above and indicated its intent to enforce those milestones.[61]

These milestones represent the closest thing to a market test that statute will allow. In a typical market, failure ultimately is signaled by bankruptcy – the exhaustion of funds and inability to obtain more. In this market, the milestones must serve as a proxy, and in doing so they should mimic the market in one crucial fashion: Inflexibility. As the milestones approach, the Commission will no doubt be faced with all sorts of reasons why they were not reasonable to begin with, or why it would be in the "public interest" to modify them *ex post*. To these arguments, it should turn a deaf ear, and it should signal now its intention to do so by declaring a "zero tolerance" policy for firms that fail to meet the deployment timetable. Furthermore, the Commission should also consider announcing in advance its intention to make available for advanced wireless services any spectrum abandoned or surrendered in this way.[62]

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[61] *See The Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band*, FCC 00-302, IB Docket No. 99-81 (August 25, 2000) ¶ 106.

[62] Again, we are cognizant that the Commission is engaged with NTIA and other government agencies in an effort to identify spectrum for advanced wireless services. Without prejudging the outcome of those deliberations, we recommend that abandoned or surrendered MSS spectrum be considered as a supplement to (not a replacement for) other spectrum determined to be available for advanced wireless use.

E. CONCLUSION

The use of market mechanisms to allocate electromagnetic spectrum to its highest and best use has been advocated by economists and other academics for many years. Such proposals are sometimes seen, however, as having little bearing on the realities of a system in which spectrum is in fact owned and controlled by government.

In recent years, however, the Commission has demonstrated that market mechanisms can be a positive force in facilitating the economic use of this increasingly scarce and valuable resource. The current proceedings offer an opportunity to demonstrate that, even in a circumstance where the Commission's ability to rely on the marketplace is more constrained than usual, decisions affecting spectrum allocation can still be informed by market principles. The Foundation is grateful for the opportunity to express its views on how these principles can best be put to work to guide the Commission's decisionmaking in this important proceeding.